

Title (en)  
FUEL AND BY-PRODUCTS FROM FERMENTATION STILL BOTTOMS

Title (de)  
BRENNSTOFF UND NEBENPRODUKTE AUS FERMENTATIONSDESTILLATIONSRÜCKSTÄNDEN

Title (fr)  
CARBURANT ET SOUS-PRODUITS ISSUS DE RESIDUS DE DISTILLATION DE PRODUITS DE FERMENTATION

Publication  
**EP 1748835 A4 20081119 (EN)**

Application  
**EP 05748383 A 20050512**

Priority  
• US 2005016735 W 20050512  
• US 57093504 P 20040513

Abstract (en)  
[origin: US2005252858A1] The disclosed invention is an improved method for treating ethanol distillery discharge by recovering, through pressurized membrane filtration, pure water from still bottoms for human consumption and concentrating the solids before anaerobic fermentation. The invention is an improved process because it retains the heat to operate at high temperatures and recovers the water from the fermentation still bottoms while pasteurized in a sanitary manner and simultaneously concentrates the solids for digestion in a completely stirred tank reactor at thermophilic temperatures. The reactor produces a gas rich in methane fuel to power the pressurized filtration process, produces a reduced volume of reactor waste to manage, and an aqueous ammonia solution to recycle to the process. This invention improves environmental quality, conserves energy and produces a beverage of reliable source and quality.

IPC 8 full level  
**B01D 61/58** (2006.01); **B01D 61/00** (2006.01); **B01D 61/02** (2006.01); **B01D 61/04** (2006.01); **C02F 1/44** (2006.01); **C12P 7/06** (2006.01); **C02F 1/02** (2006.01); **C02F 1/20** (2006.01); **C02F 1/28** (2006.01); **C02F 1/66** (2006.01); **C02F 1/74** (2006.01); **C02F 11/04** (2006.01)

CPC (source: EP US)  
**B01D 61/025** (2013.01 - EP US); **B01D 61/029** (2022.08 - EP US); **B01D 61/04** (2013.01 - EP US); **B01D 61/145** (2013.01 - EP US); **B01D 61/147** (2013.01 - EP US); **B01D 61/58** (2013.01 - EP US); **C02F 1/44** (2013.01 - EP US); **C12M 21/04** (2013.01 - EP US); **C12M 43/08** (2013.01 - EP US); **C12M 45/04** (2013.01 - EP US); **B01D 61/027** (2013.01 - EP US); **B01D 2311/04** (2013.01 - EP US); **B01D 2317/025** (2013.01 - EP US); **B01D 2317/08** (2013.01 - EP US); **C02F 1/02** (2013.01 - EP US); **C02F 1/20** (2013.01 - EP US); **C02F 1/283** (2013.01 - EP US); **C02F 1/385** (2013.01 - EP US); **C02F 1/441** (2013.01 - EP US); **C02F 1/442** (2013.01 - EP US); **C02F 1/444** (2013.01 - EP US); **C02F 1/66** (2013.01 - EP US); **C02F 1/74** (2013.01 - EP US); **C02F 11/04** (2013.01 - EP US); **C02F 2103/32** (2013.01 - EP US); **Y02E 50/10** (2013.01 - EP US); **Y02E 50/30** (2013.01 - EP US); **Y02W 10/30** (2015.05 - EP US); **Y10S 203/90** (2013.01 - EP US)

C-Set (source: EP US)  
1. **B01D 2311/04 + B01D 2311/18**  
2. **B01D 2311/04 + B01D 2311/2688**  
3. **B01D 2311/04 + B01D 2311/2649 + B01D 2311/2688**

Citation (search report)  
[X] US 4093516 A 19780606 - LANG JOHN L

Cited by  
CN111470712A

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**US 2005252858 A1 20051117; US 7267774 B2 20070911**; AT E555844 T1 20120515; EP 1748835 A2 20070207; EP 1748835 A4 20081119; EP 1748835 B1 20120502; WO 2005113118 A2 20051201; WO 2005113118 A3 20060824; WO 2005113118 B1 20061026

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